

ABSTRACT OF THE INVENTION

Anti-reflective materials such as bottom anti-reflective coatings (BARC's) and sacrificial light absorbing materials (SLAM) may be made more effective at preventing coherent light or electron beam reflection from a substrate by including in the anti-reflective material an additive to alter the radiation beam path of the reflected light or electrons. The radiation beam path altering additive may be a reflective material or a refractive material. The inclusion of such a radiation beam bath altering additive may reduce line width roughness and increase critical dimension (CD) control of interconnect lines and vias.